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Service Manual

232B SKID STEER LOADER

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RENR4898 216B, 216B2, 242B2 Skid Steer Loaders Machine Systems — 260
SENR5006 3024C Engine for Caterpillar Built Machines — 514
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Product: SKID STEER LOADER
Model: 232B SKID STEER LOADER SCH
Configuration: 216B 226B 232B 242B Skid Steer Loader SCH00001-02474 (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly
216B, 216B2, 226B, 226B2, 232B, 232B2, 242B and 242B2
Skid Steer Loaders Engine Supplement
Media Number -RENR4893-03 **Publication Date -01/11/2009** **Date Updated -12/11/2009**

i02036664

Air Cleaner - Remove and Install

SMCS - 1051-010

Removal Procedure

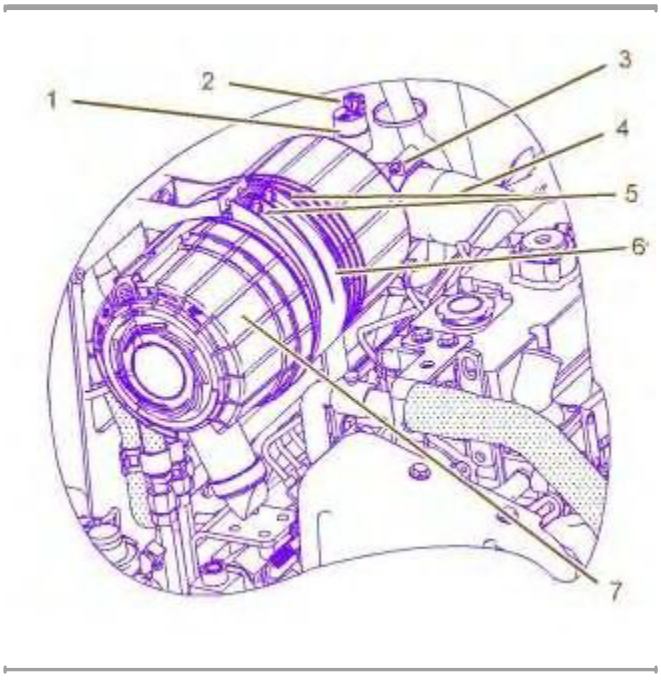

Illustration 1 g01048892

1. Remove harness assembly (2). Loosen hose clamp (3). Disconnect hose (4) .

2. Remove bolts (5). Rotate bracket (6). Remove air cleaner assembly (7). Remove service indicator (1) from air cleaner assembly (7) .

Installation Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	5P-3413	Pipe Sealant	1

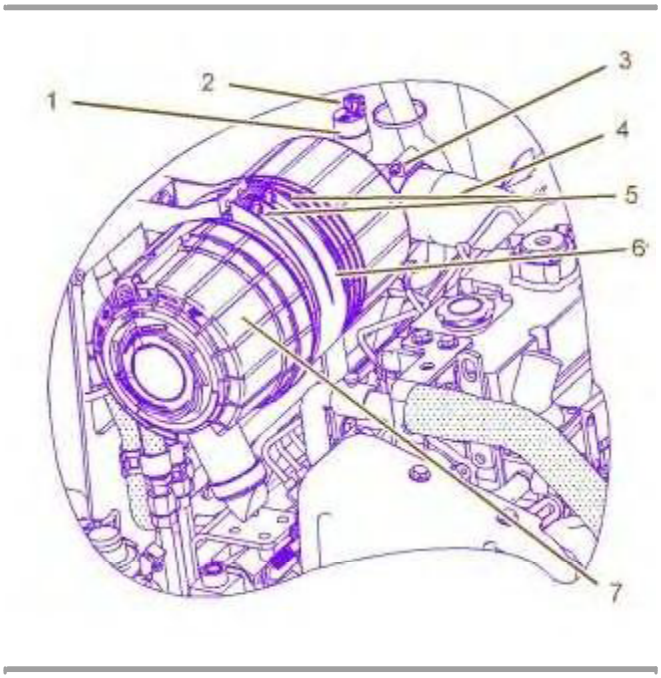

Illustration 2 g01048892

1. Apply Tooling (A) to service indicator (1). Install service indicator (1) .
2. Install air cleaner assembly (7) into position. Rotate bracket (6) into position in order to secure the air cleaner assembly. Install bolts (5) .
3. Connect hose (4) onto the air cleaner assembly. Install hose clamp (3). Torque clamp (3) to 4.5 ± .5 N·m (40 ± 4 lb in).
4. Connect harness assembly (2) .

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i02031955

Alternator - Remove and Install

SMCS - 1405-010

Removal Procedure

Start By:

A. Disconnect the battery. Refer to Disassembly and Assembly, "Battery and Battery Cable - Seperate and Connect".

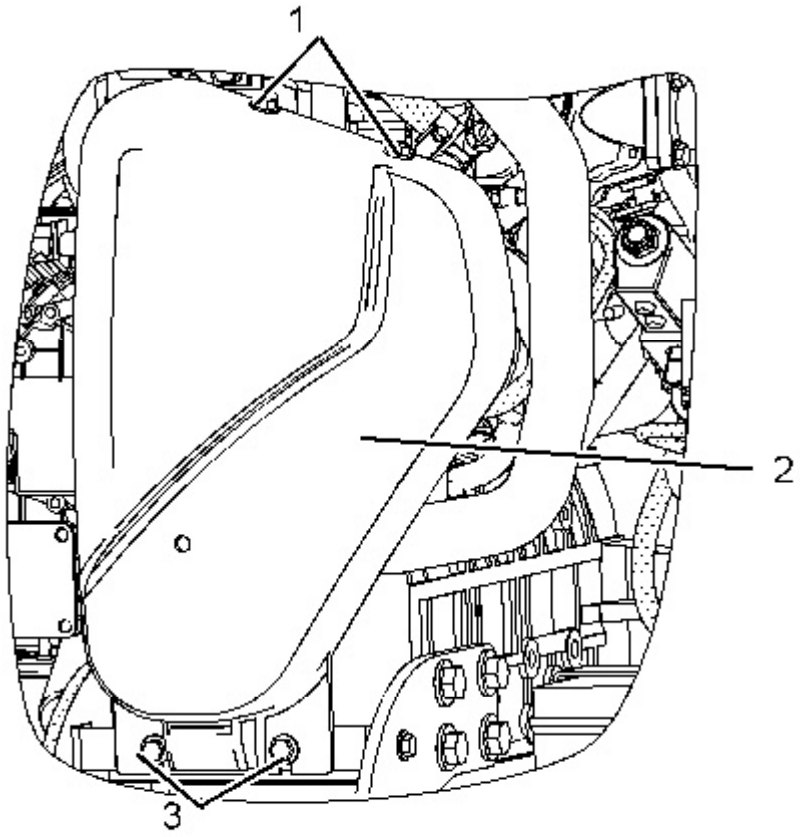

Illustration 1 g01047234

1. Remove bolts (1). Remove bolts (3). Remove cover (2).

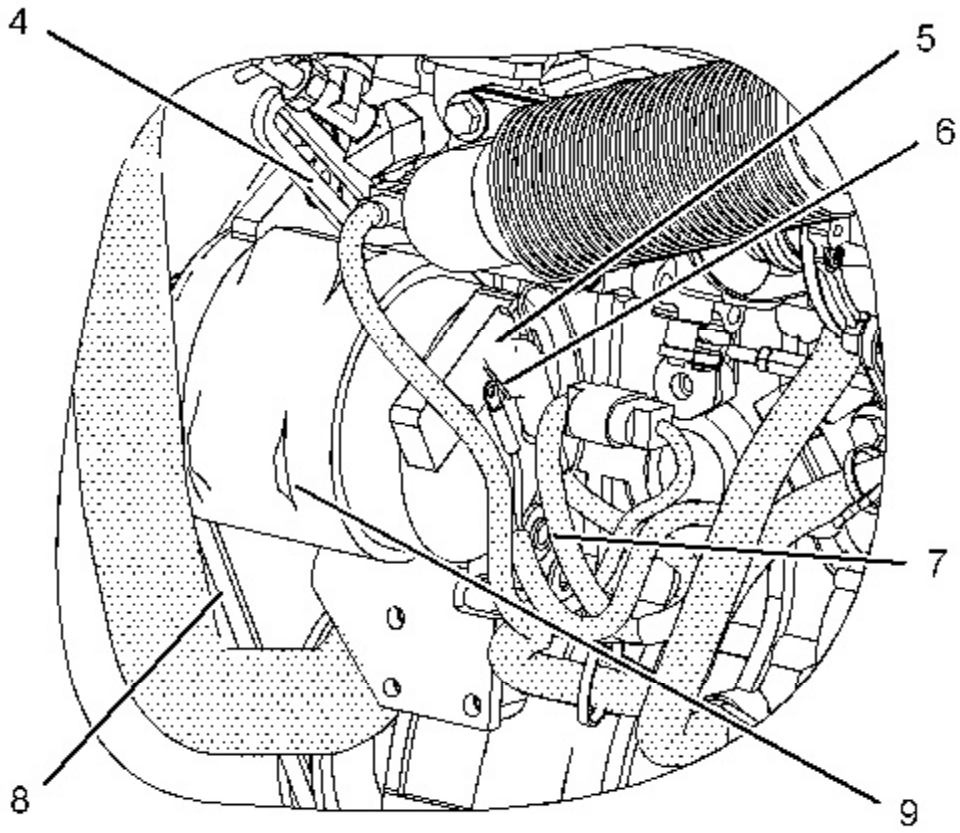

Illustration 2 g01047235

2. Loosen bolts (4) and (7). Move alternator (9) toward the engine in order to remove the V-belt. (8). Remove V-belt (8) .
3. Remove bolts (4) and (7). Remove alternator (9). Disconnect harness assembly (6). Disconnect harness assembly (5).

Installation Procedure

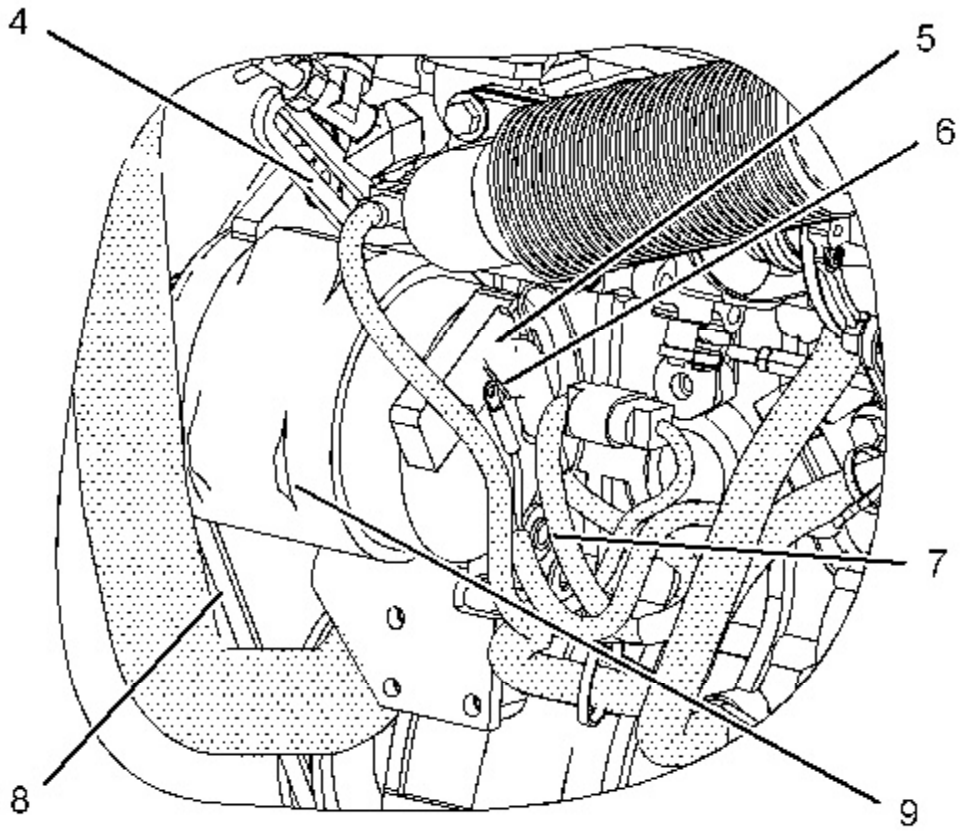

Illustration 3 g01047235

1. Connect harness assembly (5) to alternator (9). Torque the nut to 8 ± 2 N·m (71 ± 18 lb in). Connect harness assembly (6) to alternator (9) .
2. Place alternator (9) in position.
3. Install bolts (4) and (7). Do not tighten bolts (7) and (4) at this time.

   Note: When you install the alternator, ensure that the alternator pulley is in alignment with the crankshaft pulley within 2.4 mm (0.09 inch).
4. Install V-belt (8). Refer to the Operation and Maintenance Manual, "Belts - Inspect/Adjust/Replace" for the correct procedure.
5. Torque bolt (4) to 15 ± 3 N·m (11 ± 2 lb ft).
6. Torque bolt (7) to 30 ± 7 N·m (22 ± 5 lb ft).

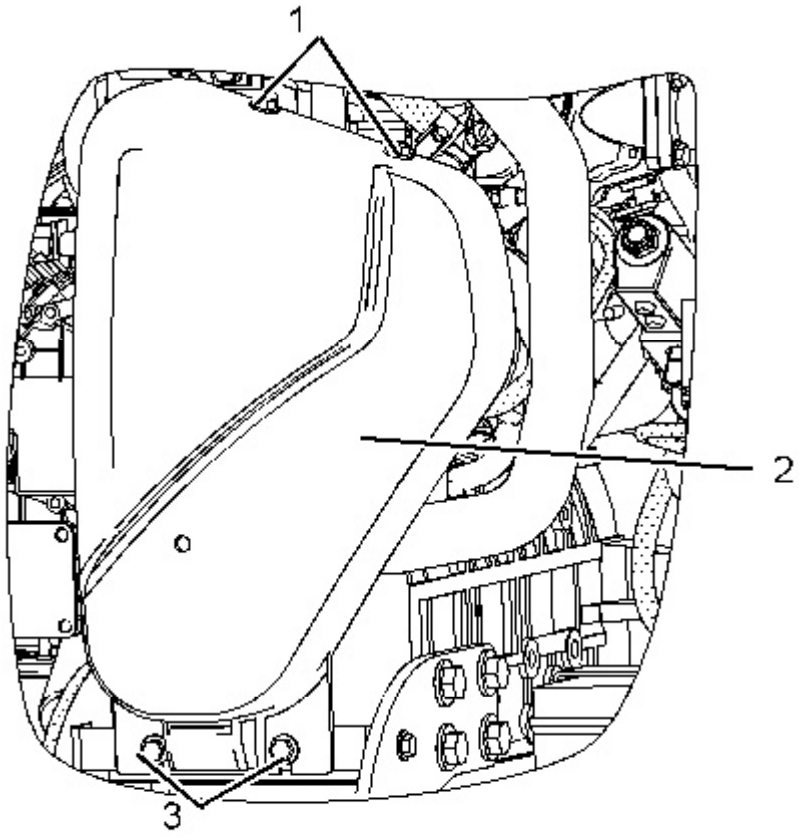

Illustration 4 g01047234

7. Place cover (2) in position.
8. Torque washers and bolts (3) to 15 ± 3 N·m (11 ± 2 lb ft).
9. Install washers and bolts (1) to a torque of 15 ± 3 N·m (11 ± 2 lb ft).

End By: Connect the battery. Refer to Disassembly and Assembly, "Battery and Battery Cable - Seperate and Connect".

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Battery and Battery Cable - Separate and Connect

SMCS - 1401-029-KA

Separation Procedure

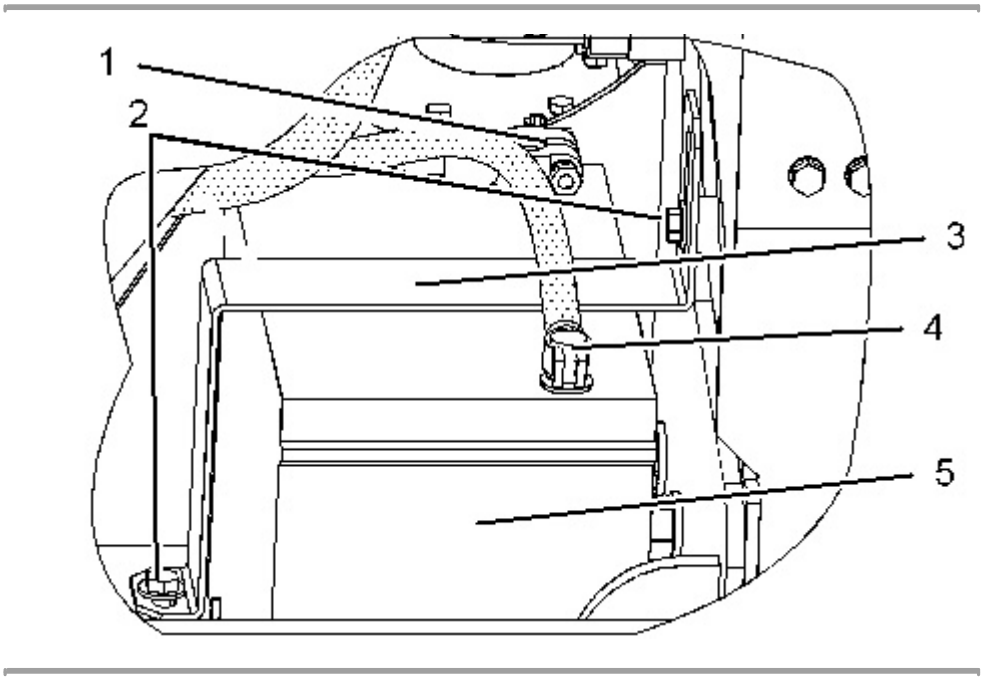

Illustration 1 g01047188

1. Raise the cover on the negative terminal of the battery. Disconnect negative terminal (4) of the battery. Place a protective cover on the negative terminal of the battery.

2. Raise the cover on the positive terminal of the battery. Disconnect positive terminal (1) of the battery. Place a protective cover on the positive terminal of the battery.

3. Remove bolts (2). Remove bracket (3) .

4. Remove battery (5) .

Connection Procedure

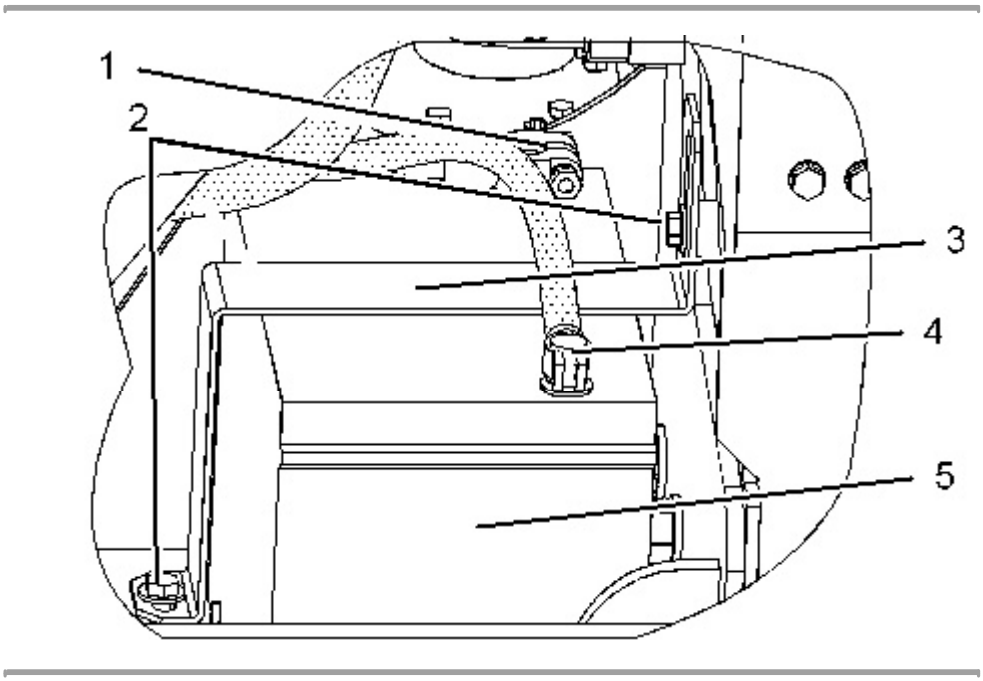

Illustration 2 g01047188

1. Install battery (5) .

   Note: Both battery terminals must be next to the engine.

2. Install bracket (3). Install bolts (2) .

3. Remove the protective cover from the positive terminal of the battery. Connect positive terminal (1). Lower the cover on the positive terminal of the battery.

4. Remove the protective cover from the negative terminal of the battery. Connect negative terminal (4). Lower the cover on the negative terminal of the battery.

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i02038431

Cab - Tilt

SMCS - 7301-029

Procedure to Tilt the Cab

Start By:

A. Release the hydraulic system pressure. Refer to Disassembly and Assembly, "Hydraulic System Pressure - Release".

WARNING

Do not go beneath cab unless cab is empty and support lever is engaged.

Failure to follow the instructions or heed the warnings could result in injury or death.

Note: Empty the water tank (if equipped) before you tilt the cab.

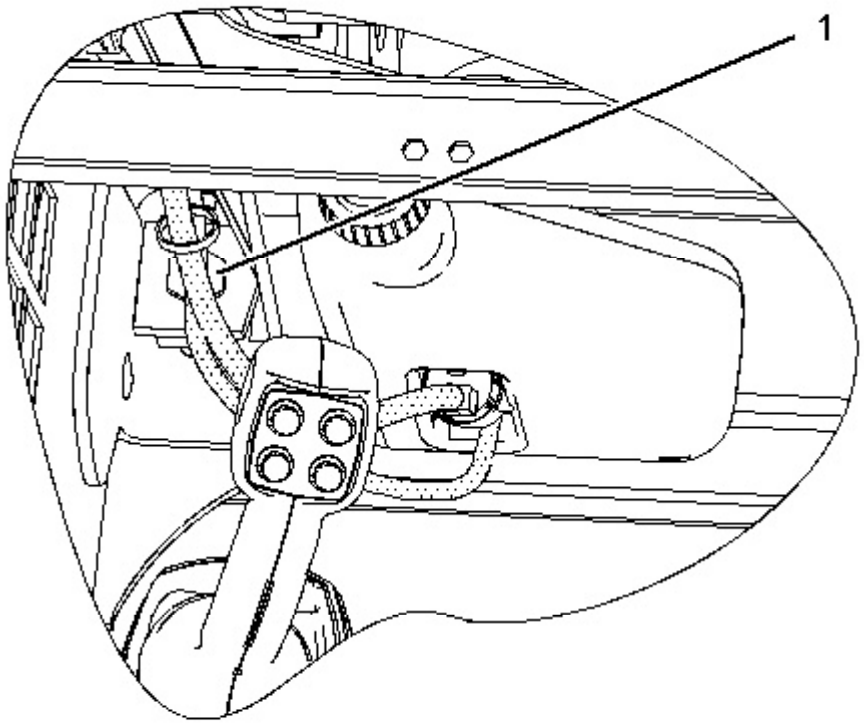

Illustration 1 g01049069

1. Loosen bolt (1) .

   Note: Bolt (1) will be retained in the cab.

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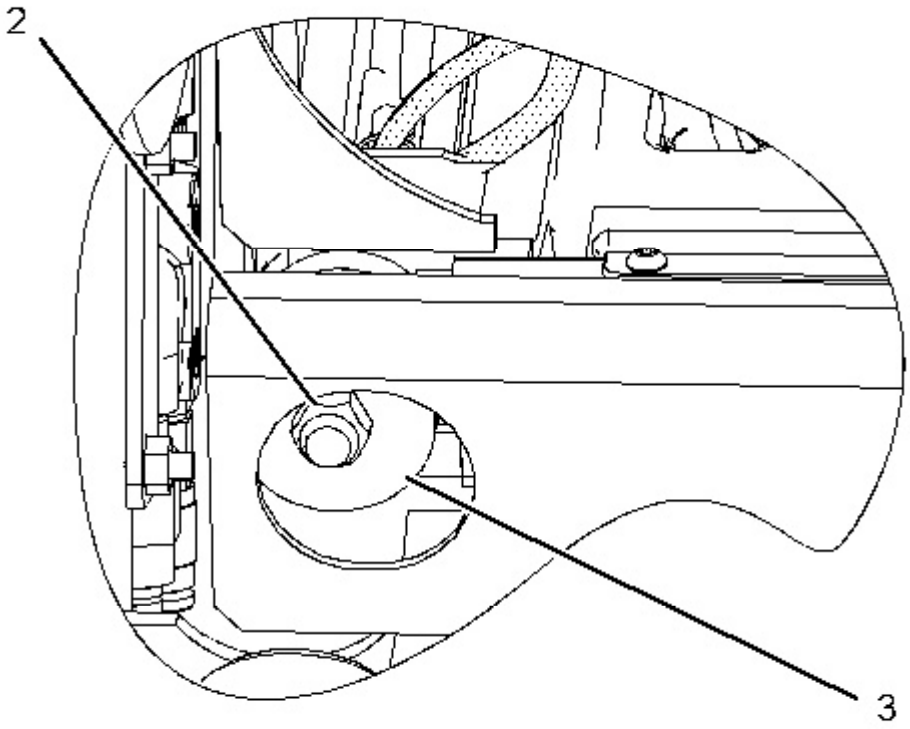

Illustration 2 g01049070

2. Remove nut (2) and large washer (3) from the inside of the cab.
3. Repeat Steps 1 and 2 on the opposite side of the cab.

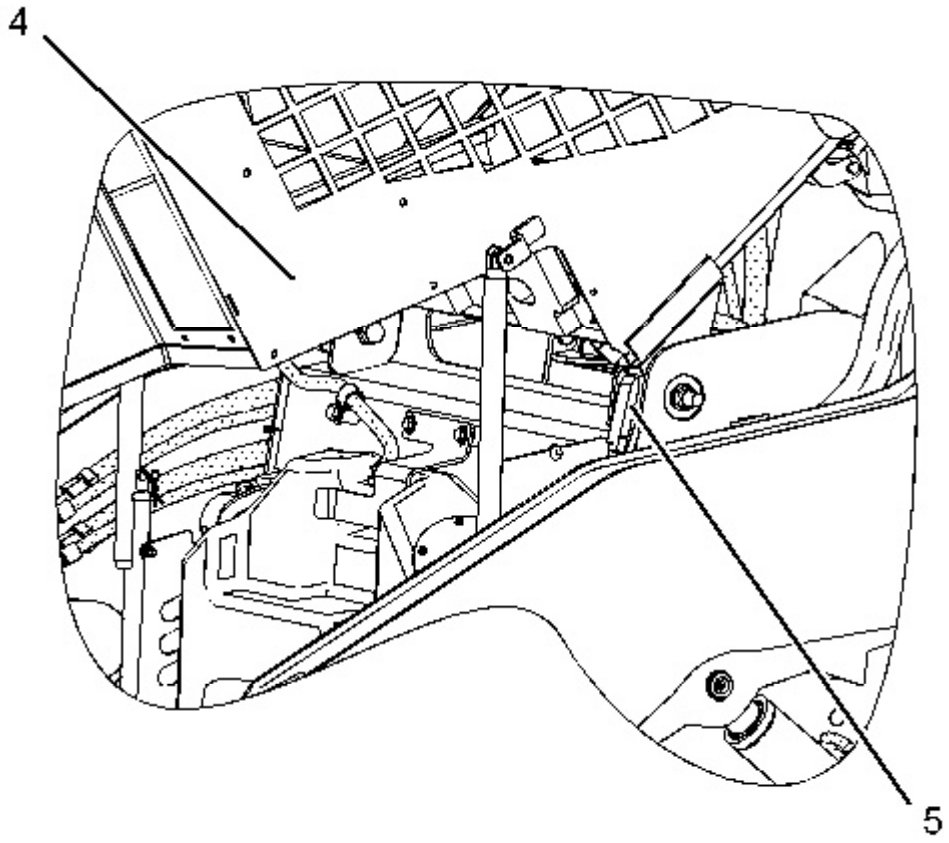

Illustration 3 g01049074

4. Raise cab (4) .

Illustration 4 g00563598

5. Engage cab support lever (5) .

Lower Procedure

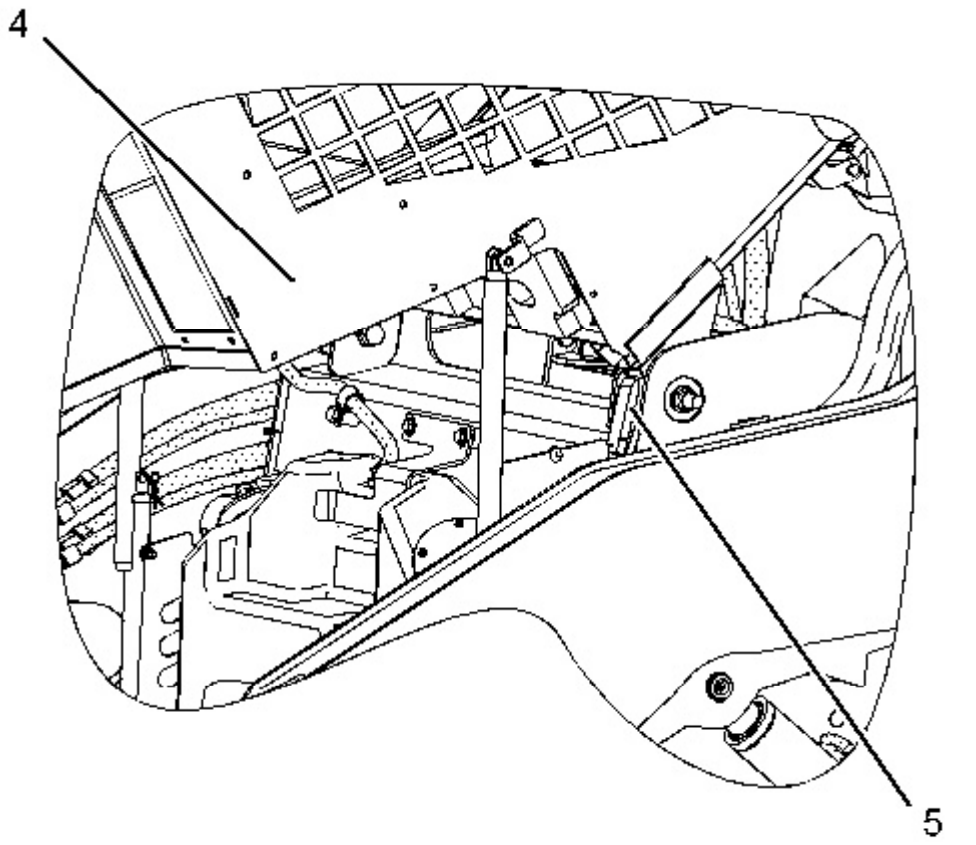

Illustration 5 g01049074

Illustration 6 g00563674

1. Tilt the cab upward.
2. Disengage cab support lever (5) .
3. Lower cab (4) .

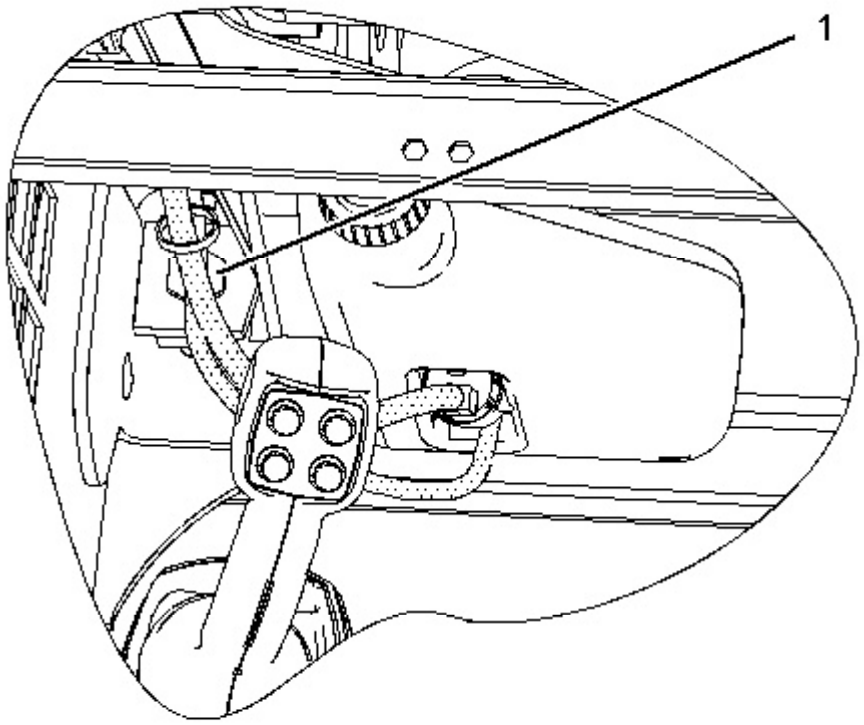

Illustration 7 g01049069

4. Align bolt (1) .

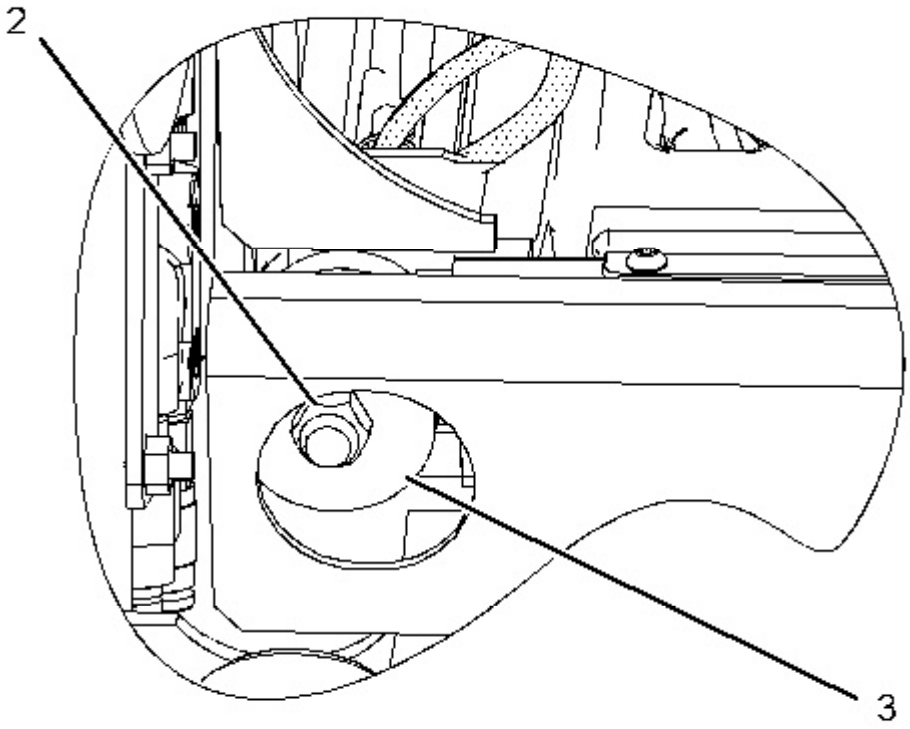

Illustration 8 g01049070

Note: Ensure that the large washer is between the nut and the rubber mounting.

5. Install large washer (3) and nut (2) from the inside of the cab. Tighten the nuts to a torque of 125 ± 10 N·m (92 ± 7 lb ft).

6. Repeat Steps 4 and 5 on the opposite side of the cab.

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i02032638

Electric Starting Motor - Remove and Install

SMCS - 1453-010

Removal procedure

Start By:

A. Disconnect the battery. Refer to Disassembly and Assembly, "Battery and Battery Cable - Seperate and Connect".

WARNING

Accidental machine starting can cause injury or death to personnel working on the machine.

To avoid accidental machine starting, turn the battery disconnect switch to the OFF position and remove the key. If the machine is not equipped with a battery disconnect switch, disconnect the battery cables from the battery and tape the battery clamps.

Place a do not operate tag at the battery disconnect switch location to inform personnel that the machine is being worked on.

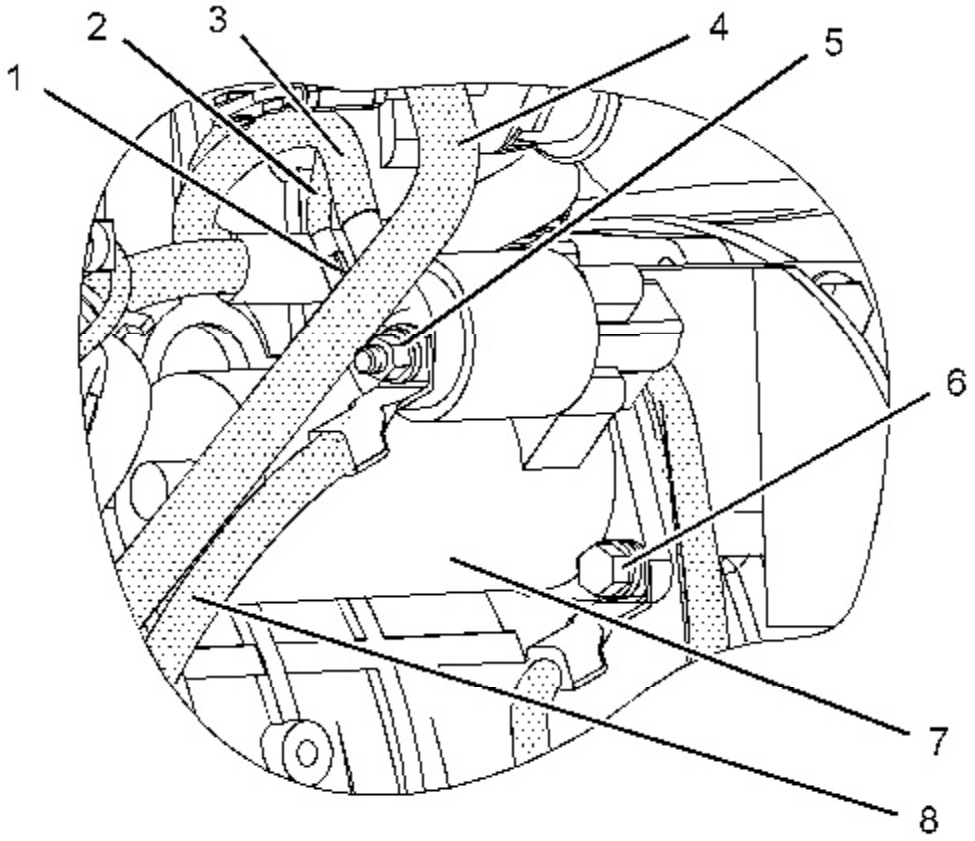

Illustration 1 g01047277

1. Slide the rubber cover aside in order to expose the connection.
2. Remove nut (1) and the washer. Remove cable assembly (2). Remove nut (5) and the lockwasher. Remove cable assembly (3) and (8) .
3. Remove bolts (6). Remove the cable assembly.
4. Remove electric starting motor (7) from the flywheel. Lower the electric starting motor around oil drain hose (4) .

Installation Procedure

WARNING

Accidental machine starting can cause injury or death to personnel working on the machine.

To avoid accidental machine starting, turn the battery disconnect switch to the OFF position and remove the key. If the machine is not

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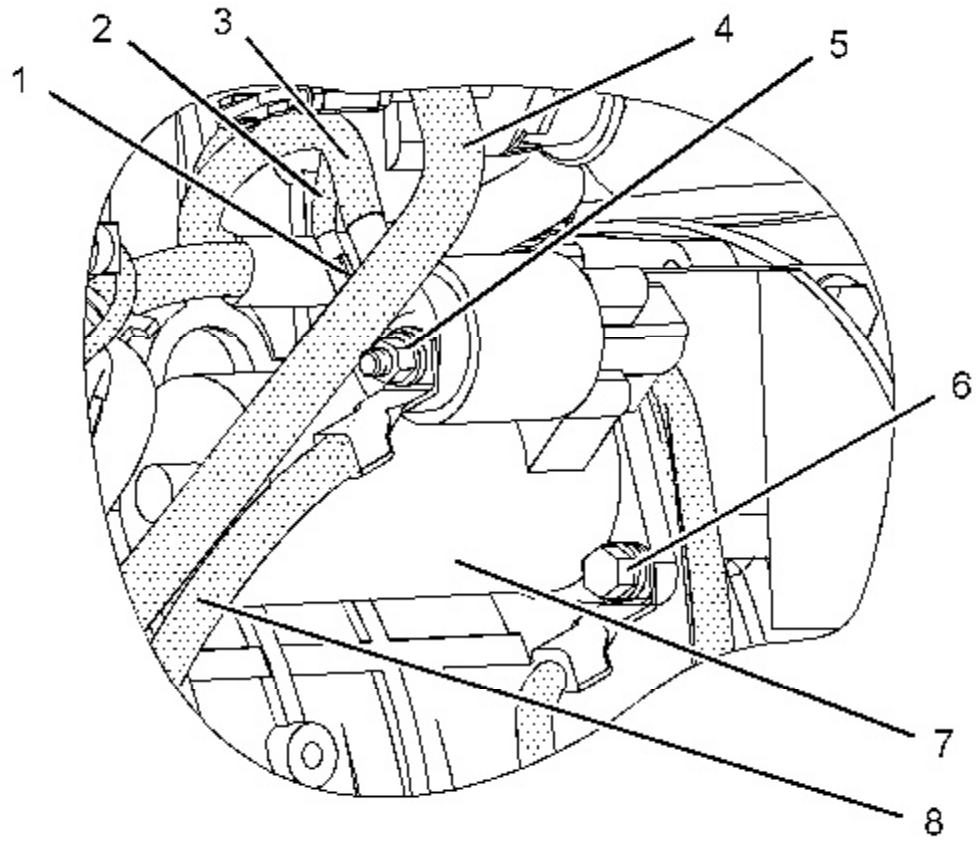

Illustration 2 g01047277

1. Raise the electric starting motor around oil drain hose (4). Install electric starting motor (7). Install bolts (6) and the cable assembly.

2. Install cable assembly (3) and (8). Install the lockwasher. Install nut (5). Torque nut (5) to 21 ± 4 N·m (15 ± 3 lb ft).

3. Install cable assembly (2). Install the nut (1) and the washer.

4. Slide the rubber cover into position in order to protect the connection.

End By: Connect the battery. Refer to Disassembly and Assembly, "Battery and Battery Cable - Seperate and Connect".

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i04351956

Engine - Install

SMCS - 1000-012

Installation Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Description**	**Qty**
A	138-7573	Link Bracket	4
B	1U-9200	Lever Puller Hoist	1
C	159-3327	Wrench Adapter	1
D	138-7575	Link Bracket	2
E	368-0005	C-Frame Assembly	1

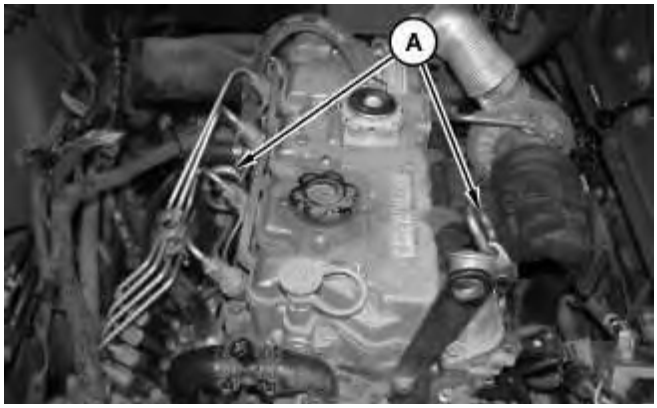

Illustration 1 g02022190

1. Install Tooling (A) on each side of the engine.

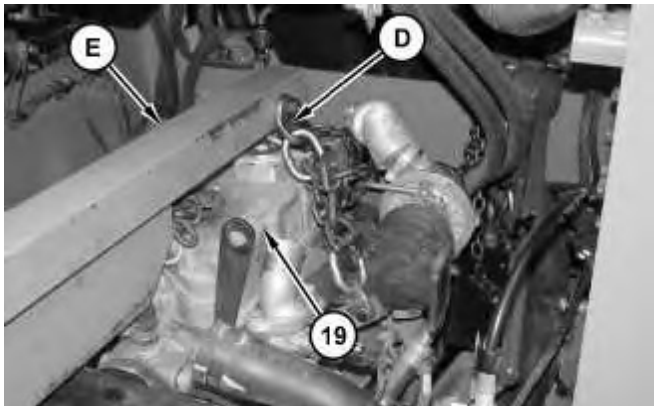

Illustration 2 g02022241

Typical Example of Tooling (E) .

2. Attach a suitable lifting device and Tooling (D) and (E) to engine (19) . The weight of engine (19) is approximately 254 kg (560 lb).
3. Position engine (19) in the machine.

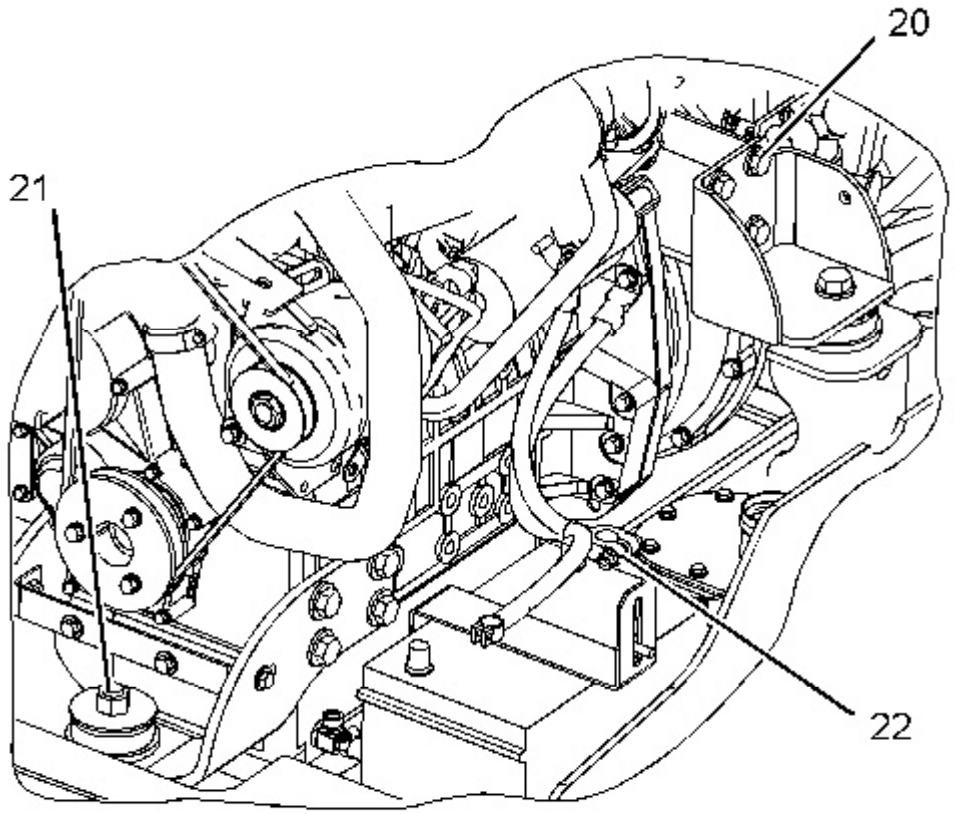

Illustration 3 g02022252

4. Install bolts (21) and (20) and the washers. Connect harness assemblies (22) . Remove Tooling (A) , Tooling (D) , Tooling (E) , and the suitable lifting device.

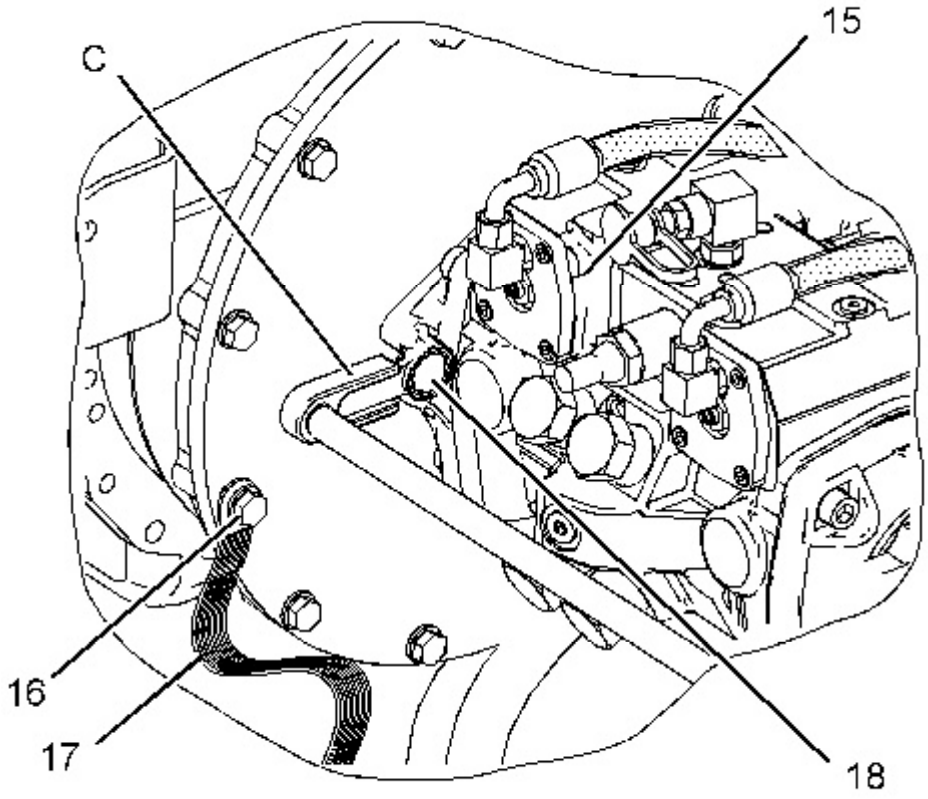

Illustration 4 g02022301

5. Position pump (15) . Install bolts (18) . Use Tooling (C) to tighten bolts (18) .
6. Install ground strap (17) and bolt (16) .

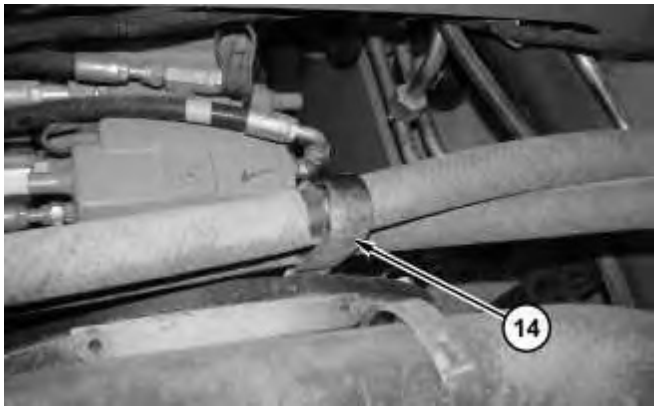

Illustration 5 g02022167

7. Connect clamp (14) .

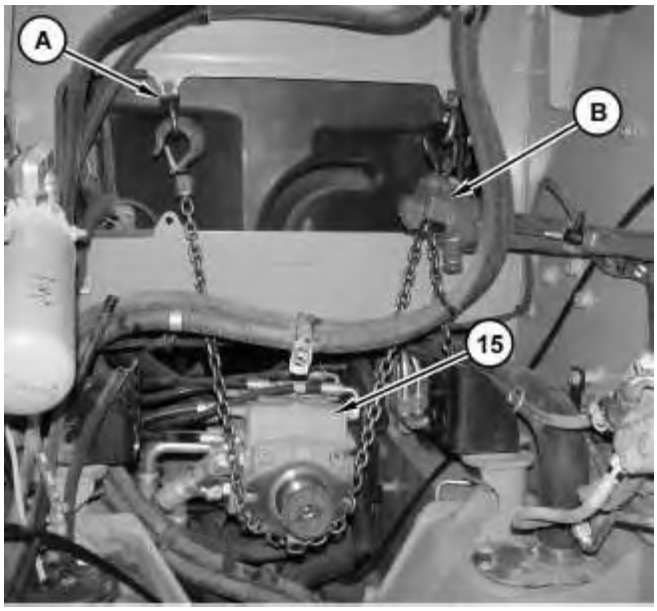

Illustration 6 g02022170

8. Remove Tooling (A) and Tooling (B) from pump (15) .

   Note: The engine has been removed in order to display the tooling.

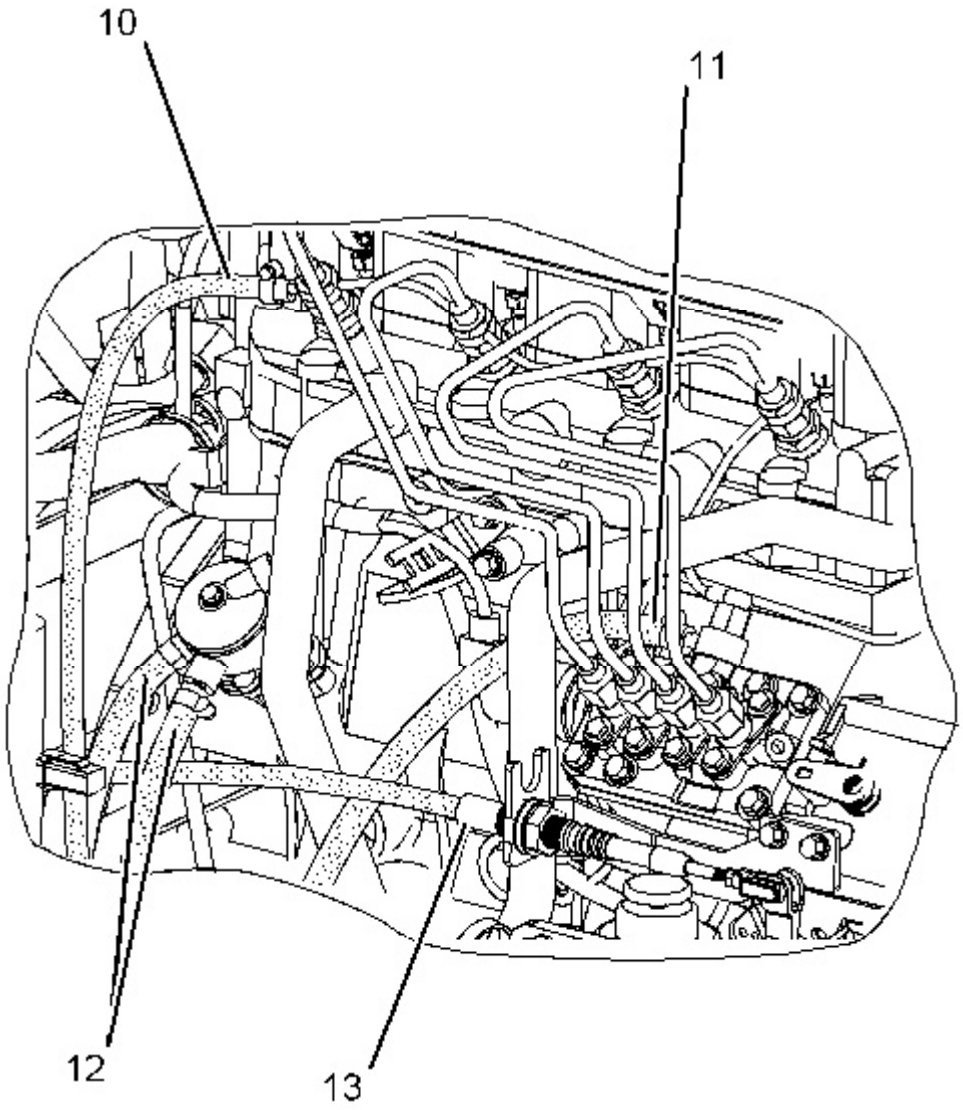

Illustration 7 g01051681

9. Connect hoses (10) , (11) , and (12) . Install cable (13) .

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